Notebook, N-09-02-07

The two entries in this notebook are dated February 7, 1908, and February 7, 1909. The first entry is probably misdated. The book contains notes by Edison regarding tests of various metals and minerals as possible replacements for sapphire in phonograph reproducers. The notebook is similar to N-09-02-24 and was probably used at Edison's laboratory in Fort Myers, Florida. The pages are unnumbered. Only 3 pages have been used.

Feby 7 1908

Expmts for Reproducer balls
Phono—

Chromite not scratched by Quartz but horrible surface —

Jasper (Red) — not scratched by Quartz but its a bad surface — cant get checks out —

Obsidian — scratched by Quartz probably harder than Reg glass — Dally pulling some fine rods to make balls with —

Iron Vanadium alloy bad surface —

Molybdenum Cant fuse its harder than Quartz I think —

80 Fe 20 B, melted + dropped
water - Very hard, scratch
Quartz - still crystalline +
bad Surface -

Goldsmith Chromium Surface
OK Scratched Easy by
Quartz -

Pyrite Scratched by quartz
not Easy - brittle
Might do -

Rutile - Scratched Easy
by Quartz - pbly ng -

finally got Tungsten fused
good - It Scratches Quartz + the
Surface is pretty good on a
face 1/4 inch square there are
places flawless where
2 or 3 35/1000 holes could
be cut out of Course the
Tungsten has absorbed Carbon

Feby 7 1909

am going to add a little iron say 5 or 10% & see if Cant get a flawless surface - its Tougher than saphire I think —

I find on further Experimenting that the Chilled Tungsten which of course has absorbed Carbon Cuts the hardest Saphire with facility - Thus we have an analogue between Chilled Iron & Chilled Tungsten & probably the hardest substance tho a metal known —